

### **REMARKS**

Claims 81-83, 85, 86, 101, 102, and 124 are pending. Claim 81 has been amended with language from claim 83. Accordingly, claims 83 and 101 have been cancelled. Claims 81, 86 have been amended. New claims 144-150 have been added. Support for the amendments and new claims can be found throughout the instant application including the Drawings and claims filed originally.

Particular support for the amendment to claim 81 can be found in claim 83 and Figure 11 (showing among other things,  $\alpha$  and  $\beta$  variable claims linked by a peptide linker). See also pgs. 19-20, bridging paragraph.

Specific support for new claims 144-150 can be found on pg. 12, line 10 to pg. 13, line 5. See also the Examples section.

No new matter has been added by virtue of the present amendments and new claims.

As an initial matter, Applicants will submit an Information Disclosure Statement under separate cover. The submission should not be construed as indicating that a prior art search has been done or that Applicants admit that any of the cited references are prior art. Submission of the IDS intended to help the Office can further appreciate the claimed invention. Consideration of the references by Dr. Schwadron is respectfully requested prior to further review of this case.

Applicants now turn to the issues set forth in the present Office Action in the order in which they are listed therein.

### **Paragraphs 1-2: Restriction requirement and species election**

Applicants acknowledge the restriction and species election set forth in the Action. Prior to an allowance on the merits, Applicants expect the Office to consider the prior art in view of the entire scope of the claimed invention.

**Paragraph 4: Oath**

A fresh declaration from inventors Hing C. Wong and Kimberlyn Card is submitted herewith to address concerns relating to the current oath or declaration. It is submitted that these current oaths or declarations are in full compliance with 37 CFR 1.67(a). A declaration signed by inventor Weidanz will be submitted under separate cover.

**Paragraph 5: Priority Claim under 119(e)**

The Office alleged that Applicants have not complied with one or more conditions for receiving the benefit of the earlier filing of USSN 60/209,536 as filed on June 5, 2000. Specifically, the position was taken that Applicants did not reference the earlier application in the present application. Applicants respectfully disagree.

For instance, in a thirteen page paper entitled "New Application Transmittal" that was submitted with the instant application on June 5, 2001, Applicants requested the Office to amend the application before the first line "This application claims the benefit of U.S. Provisional Application(s) No(s): 60/209,536 (Filing date June 5, 2000)". See the "added pages" section of the document, specifically at pg. 1 therein. Accordingly, further amendment of the present patent application to reference the earlier filing should not be required.

However to assist the Office, the present amendment includes a supplemental request to amend the application as suggested by the Examiner. In view of the prior and instant priority claim, Applicants have fully satisfied the requirements of 35 USC 119(e). Acknowledgement of the priority claim is respectfully requested.

**Paragraphs 6-7: Update of the specification**

Applicants will submit under separate cover a substitute specification that addresses concerns raised in the Office Action.

**Paragraphs 8-9: Obviousness-type Double-patenting Rejection**

Applicants respectfully traverse the obviousness-type double patenting rejection over claims 1-31 of U.S. patent number 6,534,633, especially in view of the pending claims. For instance, amended claim 1 now recites a T cell receptor fusion molecule that includes a cytokine or fragment thereof connected by a first peptide linker in which the receptor includes  $\alpha$  and  $\beta$  variable chain TCR covalently linked together by a second peptide linker. Such a molecule is not obvious over the claims of the '633 patent as cited by the USPTO.

In view thereof, reconsideration and withdrawal of the double-patenting rejection are respectfully requested.

**35 U.S.C. 102(b)**

Claims 81-83, 85, 86, 101, 102, and 124 stand rejected as being anticipated by U.S. Pat. No. 5,723,309 to Bonneville on grounds set forth at pgs. 4-5, bridging paragraph of the Action. While Applicants respectfully disagree with the stated basis for rejection, grounds for it have been addressed by the present submission.

As cited by the Office, Bonneville teaches various **heterodimeric (two chain)** T-cell receptor molecules. In contrast, the claimed invention encompasses **single-chain** T cell receptor fusion molecules. Bonneville's constructs and the instantly claimed molecules are thus quite different. On this basis alone, the anticipation rejection should be reconsidered and withdrawn.

Applicants note that the Abstract of Bonneville references “[s]oluble, single chain T cell receptors,”. As understood, those molecules are single polypeptide chains that include **only one of the TCR  $\alpha$  or  $\beta$  chains**. Such constructs (only one  $\alpha$  or  $\beta$  chain) are completely different from those presently claimed (**both  $\alpha$  and  $\beta$  chains**). Thus, there is no basis for the present anticipation rejection, particularly in view of the present claim amendments.

Moreover, **none of Bonneville’s constructs** as relied on disclose a single chain TCR fusion molecule  $\alpha$  and  $\beta$  variable chain TCR are **covalently linked together by a peptide linker**. In contrast, the presently claimed soluble and single chain TCR receptor fusion molecules feature  $\alpha$  and  $\beta$  variable chain TCR covalently linked through the peptide linker.

In view thereof, reconsideration and withdrawal of the present §102 rejection over the Bonneville patent are respectfully requested.

Claims 81-83, 85 and 86 stand rejected as being anticipated by Weidanz et al. (WO 99/18129 or WO 98/39482 ). While Applicants respectfully disagree with the rejection, basis for it has been addressed by this paper. The rejections are addressed together in the interest of brevity.

For example, the ‘129 and ‘482 PCT applications are said to disclose a soluble single chain alpha beta TCR fused to an **Ig light chain** via a linker. In contrast, the claimed invention is a single chain TCR fusion that includes T cell receptor connected to a **cytokine or fragment** thereof connected by a (first) peptide linker.

Moreover, the claimed single chain T cell receptors include alpha and beta variable chain TCR covalently linked together by **another (second) peptide linker**. None of the molecules as cited in the Office Action are said to have this structure.

In view thereof, reconsideration and withdrawal of the anticipation rejection over the cited PCT international applications are requested.

Claims 81-83, 85, and 86 stand rejected as being anticipated by Banerji et al. As an initial matter, Applicants note that the Office has not provided a citation for this reference (see the Action at pg. 6). No citation is apparent from the Examiner's PTO-892 form. Clarification is requested.

Nonetheless, Applicants note that the molecule said to be disclosed by the Banerji et al. includes a single chain alpha beta TCR fused to a **carrier protein** via a peptide tether. In contrast, the presently claimed molecule is linked to a **cytokine or fragment thereof** via a peptide linker.

Moreover, the claimed single chain T cell receptors include alpha and beta variable chain TCR covalently linked together by **another (second) peptide linker**. None of the molecules cited in the rejection are said to have this structure.

Accordingly, reconsideration and withdrawal of the anticipation rejection over Banerji et al. are requested. Additionally, Applications request that the Examiner indicate that the Banerji et al. reference was considered in the next Office communication.

Claims 81-83, 85, 86, and 124 stand rejected under 102(e) as being anticipated by Weidanz et al. (US Pat. No. 6,534,633). Applicants respectfully disagree. However basis for the rejection have been addressed by this submission.

For instance, Weidanz is said to disclose a fusion protein in which a **single-chain antibody** portion is a biologically active polypeptide with a binding recognition site. In contrast,

the presently claimed single chain T cell receptor fusion molecule includes a fused **cytokine or fragment thereof**. Accordingly, the claimed fusion molecules are different from those said to be reported by the Weidanz patent.

Accordingly, reconsideration and withdrawal of the anticipation rejection over the Weidanz patent are requested.

Claims 81-83, 85, 86, and 124 stand rejected under 102(e) as being anticipated by Weidanz et al. (WO 00/23087). Applicants respectfully disagree. However basis for the rejection have been addressed by this submission.

For instance, the '087 PCT application is said to disclose a fusion protein in which a **single-chain antibody** portion is a biologically active polypeptide with a recognition site. In contrast, the presently claimed single chain T cell receptor fusion molecule includes a fused **cytokine or fragment thereof**. Accordingly, the claimed fusion molecules are different from those said to be reported by the Weidanz application.

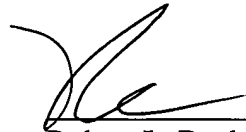
Accordingly, reconsideration and withdrawal of the anticipation rejection over Weidanz PCT application are requested.

Weidanz, J. et al.  
U.S.S.N. 09/874,907  
Page 17 / 17

Although it is not believed that any additional fees are needed to consider this submission, the Examiner is hereby authorized to charge our deposit account no. 04-1105 should any fees, including any extension fees, be deemed necessary.

Respectfully submitted,

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Robert L. Buchanan (Reg. No. 40,927)  
EDWARDS ANGELL PALMER & DODGE, LLP  
P. O. Box 55874  
Boston, MA 02205  
Tel: (617) 439-4444  
Fax: (617) 439-4170 / 7748

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